The use of clusters as a tool for system innovation

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System innovation – a re-cap

What is it?
System innovation is a concept to illustrate a horizontal policy approach that mobilises technology, market mechanisms, regulations and social innovations to solve complex societal problems in a set of interacting or interdependent components that form a whole ’socio-technical system’

What’s new?
• Changes/transitions in ’whole’ socio-technical systems
  – Technological innovation + innovations in organisations and institutions
  – Production + use/consumption of knowledge
• Longer-term, problem-oriented processes focused on addressing systemic problems
  – Reliant on engagement/ inclusiveness of broader range of stakeholders
  – Reliant on leadership and a shared societal vision
• Role of government/policy as coordinator/facilitator + enabler of transitions delivering on social needs
Cluster policy addresses system (or coordination) failures

The stated objective of cluster programmes (examples):

- **Denmark**: The objectives innovation networks are to **strengthen public-private collaboration and knowledge transfer** between public universities and private companies on research and innovation, thus promoting knowledge-based growth in business and industry.

- **France**: The goal of competitiveness clusters is to **build on synergies and innovative, collaborative projects** in order to give partner firms the chance to become first in their fields, both in France and abroad.

- **Germany**: The Leading-Edge Cluster competition supports high-performance clusters formed by business and science that enter into **strategic partnerships which boost Germany’s innovative strengths and economic success**.

- **Sweden**: VINNVÄXT’s mission is to promote sustainable regional growth by developing internationally competitive research and innovation milieus in specific growth fields. **Effective regional innovation systems speed up industrial and business renewal towards innovation-led sustainable growth**.

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Cluster initiatives are organised efforts focused on improving interaction/collaboration between multiple actor groups in (geographically co-located) sectoral/thematic areas – in order to foster or speed up innovation/renewal processes, growth and competitiveness.
Trends in cluster policies

TACTICS report (2012) analysed cluster policies in 17 countries, identifying four main trends:

1. **Evolution of the concept of clusters as a policy tool**
   - Industrial productivity/efficiency, innovation AND economic transformation
   - Evolution from local/industry-specific to broader platforms for collaboration

2. **Opening innovation processes through clusters**
   - New types of partners (e.g. users/civil society, other clusters)
   - New geographies of partners (e.g. inter-regional and international)

3. **Smart implementation and integration of cluster-related policies**
   - Portfolios of clusters (support to both existing and emerging)
   - Synergies across policy areas ("use" of clusters to achieve other policy objectives)

4. **Continued strengthening of cluster initiatives**
   - Continued efforts to bridge existing gaps
   - Evaluation of performance (both of management and economic factors)

Available for download at:
Clusters in the context of system innovation

System innovation challenges

• Improved governance mechanisms and better means of engaging a range of stakeholders are needed to facilitate longer-term systemic processes

• The complexity of system innovation requires a more holistic design and coordination across governments and innovation ecosystems; Multi-stakeholder engagement and foresight can help create a shared vision and inform policy action

• System innovation requires the sequencing and adaptation of policies with the different stages of transition – understanding and managing barriers (or resistance) to change

Possible use of clusters

• **Mobilisation and process management**
  Use of cluster organisations* to foster participatory approaches and manage longer-term transitions

• **Linkages to and coordination between systems**
  Use of cluster organisations* to help with coordination and vision-setting within and across innovation ecosystems

• **Informants and advocates across policy areas**
  Use of cluster organisations* to identify barriers/windows of opportunity during transition process and inform policy action (across policy areas)

*Cluster initiatives are increasingly managed by specialised institutions, known as cluster organisations, which take various forms, ranging from non-profit associations, through public agencies to companies.
Some regions/countries are already experimenting...

- **Region Skåne**
  VD nätverk (the managers of the region’s ”open innovation arenas”) leveraged as sparring partners, initiators and process managers of broader collaborative initiatives that address identified actions/challenges within the region’s prioritized innovation/S3 areas

- **VINNOVA**
  Clusters have been instrumental in mobilising actors and forming the partnerships in programmes for challenge-driven innovation and strategic innovation areas

- **Innovation Norway**
  Programme management of Norwegian Innovation Clusters working pro-actively with cross-clustering activities to foster renewal and transformation (as well as targeting/leveraging clusters in other innovation programmes)
DEVELOPMENT STAGES FOR COLLABORATION WITHIN AND BETWEEN CLUSTERS

- Collaboration within the cluster
- Collaboration with another cluster
- Collaboration in consortiums
- National role

Clusters are also in a position to take national responsibility for further developing Norwegian businesses.
PROJECT: GLOBAL INNOVATION WINNERS
THE CLUSTER’S CONTRIBUTION – FOUR FOCUS AREAS

- Increased Competitiveness
- Innovation platforms
- Leading Global Innovation Eco systems
- Disruptive technologies and trends

Renewal and restructuring of Norwegian businesses
More, stronger, dynamic and future oriented innovation platforms
Close, dynamic relations with globally leading innovation eco systems
Companies understand and utilize disruptive technologies and trends
Additional reflections

- We see clusters being "used" to address other policy objectives (e.g. SME internationalisation, development of new value chains, interregional cooperation/smart specialisation)
  - Do the cluster organisations/process managers have all the necessary capabilities and resources?
  - Any risks to being used as "a multi-purpose tool" (e.g. diverting focus and resources away from core purpose, not being able to meet additional expectations, or burn-out)?

- It seems that clusters (or a certain segment of "mature platforms for collaboration") are becoming a more stable part of the innovation support infrastructure in certain geographies
  - Is this type of long-term, collaborative platform and process management function needed/desirable?
  - If so, what implications may this have on existing cluster programmes (and state aid rules)?